

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/448,606

REMARKS

Summary Of The Office Action & Formalities

Claims 1-12 are all the claims pending in the application. By this Amendment, Applicants are amending claims 2, 3, 5, 7, 9, and 10.

The Examiner rejects claims 2, 3, 5, 7, 9, and 10 under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons set forth at page 2 of the Office Action. Applicant's foregoing amendments are believed to overcome this rejection.

The prior art rejections are summarized as follows:

1. Claims 1, 2, 4, 6, 8, and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over newly cited Okazato et al. (USP 4,723,832) in view of Kazuya (JP 1-276507).
2. Claims 3, 5, 7, 9, 11, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over newly cited Okazato et al. in view of Kazuya and Applicant's disclosure at page 4, lines 7-16.

Applicant respectfully traverses.

Claim Rejections - 35 U.S.C. § 103

In rejecting claims 1, 2, 4, 6, 8, and 10, the Examiner takes the position that

Okazato et al. discloses a telecommunications cable that is structurally reinforced by incorporating armoring having one layer of wires (2) wherein the layer of wires include steel wires (claims 1 & 6). Okazato et al. also discloses a tube (1) that forms a concentric layer of the cable and is obtained from a sheet of steel (claims 4 & 8).

Okazato et al. does not disclose the steel wires and the steel sheet, each being covered in a layer of stainless (claims 1, 2, 4, 6, 8 & 10). [JP '507] discloses a composite steel wire in which a steel core is covered by a layer of stainless steel (4). It would have been

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obvious to once skilled in the art to modify the steel wires and the steel sheet of Okazato et al. by covering each steel wire and the steel sheet with a steel layer as taught by [JP '507] to further protect the wires and the sheet since stainless steel is a known highly corrosion-resistant material.

Office Action at pages 3-4. Applicant respectfully disagrees.

Applicant's invention is directed to a telecommunications or power transport cable that is structurally reinforced with armoring. The armoring includes at least one composite steel wire having a core of steel and covered in a layer of stainless steel.

Okazato et al. discloses a composite overhead cable for both electric and optical transmission. Referring to Fig. 1, the reference discloses a pipe 1 having a optical fiber cable 3 disposed within the pipe, and a plurality of elongated conductors 2 fixed to the outer periphery of the pipe 1. The reference further discloses that:

Each conductor 2 may be one which is obtained by stranding a simple elongated element made of aluminum, copper or steel and having a circular or polygonal shape in cross-section, or composite elongated element which is formed of steel coated with copper and has a circular or polygonal shape in cross-section.

Okazato et al. at column 4, liens 37-42.

Therefore, contrary to the present invention, Okazato et al. does not disclose armoring. Rather the conductors 2 are the wires that carry the electrical transmission. Furthermore, Okazato et al. does not disclose a composite steel wire that has a core of steel and a cover of stainless steel.

JP '507 discloses a grounding cable resistant to lightning that is used for elevated electrical cables. In particular, the reference discloses a cable that has the following three-piece structure: a steel core 2; an interlayer 3 made from copper, copper alloy, aluminum, or aluminum

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alloy; and a surface layer 4 made from stainless steel. As taught by the reference, when lightning strikes the wire, the stainless steel layer, having a high melting point, resists fusing so that the steel core 2 is protected from damage. Again, the grounding cable disclosed in JP ‘507 carries current, and, unlike Applicant’s claimed structure, is not used as armoring.

Moreover, one skilled in the art would not have been motivated to modify the structure of Okazato et al. to replace the conductors 2 with the three ground cable of JP ‘507, since the conductors 2 of Okazato et al. are used to carry power current, while the ground cable of JP ‘507 is maintained at the ground potential and is used to protect electrical transport cables from lightning strikes. That is, each reference is directed to a different application.

Furthermore, the Examiner’s stated reason for modifying Okazato et al. “to further protect the wires and the sheet since stainless steel is a known highly corrosion-resistant material” (Office Action at page 4) is not a motivation found in the cited art, and is improper here. In particular, the Examiner relies on a generalized property of stainless steel (i.e., its resistance to corrosion) to argue the obviousness of a very specialized application of this material (its application as a cover layer for armoring). In doing so, the Examiner has ignored one of the most important problems with stainless steel that teaches away from its use: its very high cost. It is Applicant’s own disclosure that teaches a structure that makes the use of stainless steel affordable in armoring.

Therefore, for at least the foregoing reasons, claims 1 and 6 are believed to be allowable over the applied art, as are claims 2-5 and 7-12 at least by reason of their respective dependencies.

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Furthermore, with respect to claims 4 and 8, the Examiner has not set forth where either applied reference discloses a tube that forms a concentric layer of said cable that is obtained from a sheet made of composite steel having a steel core of a standard type covered in a layer of stainless steel. While the Examiner points to the tube (1) in Okazato et al. "that forms a concentric layer of the cable and is obtained from a sheet of steel," there is no disclosure that the tube 1 has the claimed composite structure, and the Examiner has not pointed to any teaching in JP '507 regarding composite concentric tubing. Nor has the Examiner set forth any rationale for using Applicant's claimed composite concentric tubing in view of the structure for the individual ground cables disclosed in JP '507. Therefore, claims 4 and 8 are believed to be allowable for this reason as well.

In rejecting claims 3, 5, 7, 9, 11, and 12, the Examiner takes the position that

it would have been obvious to use the composite steel material sold under the registered trademark NUOVINOX for the wire and the tube of the Okazato et al. cable since this material is commercially available and can be drawn into a wire or tube. In the case of a wire form, the wire can be used as reinforcing wires or armoring wires as disclosed by the applicant (page 4, lines 7-16).

Office Action ate page 4. Applicant respectfully disagrees.

As explained in the Manual Of Patent Examining Procedure ("MPEP") at, e.g., § 2143.01, the "fact that references can be . . . modified is not sufficient to establish prima facie obviousness." Likewise, that a wire can be formed from a certain composite material does not make it obvious to use that material to form the wire.

Moreover, as set forth in the MPEP at § 706.02(j) "[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art,

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and not based on the applicant's disclosure." See, also, MPEP at § 2141 ("the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention.") Here, therefore, the Examiner's reliance on Applicant's own disclosure at page 4, lines 7-16 is clearly improper. Applicant makes no admission that it was known in the art to use NUOVINOX as armoring for cabling.

Finally, Applicant submits that armoring made from a composite steel tube made from a stainless steel filled with ground steel particles that are compressed under high pressure within the tube, then placed in a furnace, heated, and drawn to a desired section is not compatible for use as a ground wire as disclosed in JP '507, since Applicant's claimed armoring is adapted for structural support, and not the conduction power or the grounding of a cable. Therefore, JP '507 teaches away from using armoring made from NUOVINOX or similar type composite material. Indeed, JP '507 teaches a three-piece structure adapted for the express purpose of protecting against fusing by lightning so that the steel core 2 is protected from damage.

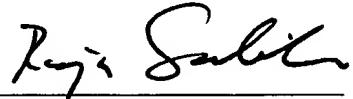
For at least the foregoing distinctions, claims 3, 5, 7, 9, 11, and 12 are also believed to be allowable over the applied art.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

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Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



Raja Saliba
Registration No. 43,078

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: May 4, 2001

APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

Claim 2. (Twice Amended) A telecommunications or power transport cable according to claim 1, in which at least one layer of wires from said one or more layers of wires is constituted by composite steel wire.

Claim 3. (Twice Amended) A telecommunications or power transport cable according to claim 1, wherein said armoring includes at least one wire from said one or more layers of wires that is made of composite steel [sold under the registered trademark NUOVINOX, said NUOVINOX composite steel] wire being made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated, and drawn to a desired section.

Claim 5. (Twice Amended) A telecommunications or power transport cable according to claim 4, in which said tube that forms a concentric layer of said cable is made of composite steel [as sold under the registered trademark NUOVINOX, said NUOVINOX composite steel tube being] made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated, and drawn to a desired section.

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Claim 7. (Amended) The telecommunications or power transport cable according to claim 6, wherein said reinforcing wire is made of composite steel [sold under the registered trademark NUOVINOX, said NUOVINOX composite steel] wire being made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated, and drawn to a desired section.

Claim 9. (Amended) The telecommunications or power transport cable according to claim 8, in which said tube that forms a concentric layer of said cable is made of composite steel [as sold under the registered trademark NUOVINOX, said NUOVINOX composite steel tube being] made from a tube of stainless steel filled with ground steel particles that are compressed under high pressure within said tube, then placed in a furnace, heated, and drawn to a desired section.

Claim 10. (Amended) The telecommunications or power transport cable according to claim 6, further comprising a plurality of reinforcing wires including said at least one reinforcing wire, each made of composite steel wire having a core of steel of a standard type, and covered in a layer of stainless steel, said plurality of reinforcing wires forming an armoring layer of said cable.